Digital Video Recorder

(ATM SERIES)

User Manual

Operation precautions 3
1. Installation environment 3
2 Open Product box and Check the accessories 3
Chapter 1 Product Features and Specifications 4
1.1 Product Specifications 4
1.2 Main Features 6
Chapter 2 Operational manual before installation 8
2.1 Check unpacked DVR 8
2.2 Installation precaution 8
2.3 Connection of video/audio input/output 9
2.4 Connection of alarm input and output devices 11
Please short connect between the alarm input end and the power 12
2.5. Select and configure recording mode 13
2.6. Network connection 14
Chapter 3 Installation 15
3. 1. Hard disk installation 15
3. 2 Front panel introduction 16
3. 3 Keys functions 16
3.4 Mouse operation 17
3.5 Back panel introduction 18
Chapter 4 System operation 20
4.1. Turn on / off the recorder 20
4.2 Recording operation 21
4.3 Playback 24
4.4 Back up 26
4.5 Pan-tilt control and image color control 27
Chapter 5 Menu operational guide 31
5.1 Menu structure 31
5.2 Menu Overview 32
5.3 Menu operation 34
Chapter 6 Operation over Network 40
6.1. Network connection operation 40
6.2.Login and logout 40
Chapter 7 Serial port operation 52
7.1 Control Keyboard 52
7.2 Matrix connection 53
Chapter 8 Frequent Questions and Answers 54

Operation manual for MPEG4/H.264 series ATM DVR
this manual takes DVR0304MBD as an example

Operation precautions

All the safety and operating instructions should be read before the appliance is operated. The improper operation may cause irreparable damage to the appliance.

1. Installation environment

1.1 Keep away from extreme hot places and humid places
1.2 Avoid direct sunlight
1.3 Be horizontally installed
1.4 Avoid violent vibration
1.5 Do not put other devices on the top of the DVR
1.6 Put in well ventilated place, do not block the radiator fan

2 Open Product box and Check the accessories

Check the following accessories after opening the case:

*** the packing list in the box is the final ***

2.1 One power cord.
2.2 One Ethernet cable (positive cable), one serial port cable. (CIF 16-ch is not provided with the serial port cable)
2.3 One package of installation kit.
2.4 One user's manual.
2.5 One CD for installation.
2.6 Certification of the product.
2.7 One 25-pin alarm converter. (CIF 16-ch is not provided with the converter)
2.8 One mouse.

Chapter 1 Product Features and Specifications

1.1 Product Specifications

Model	**DVR0304MBD**
LCD	**YES**
Processor	High performance industry level embedded microprocessor
Operation System	Embedded Linux operation system
System Resources	Multi-task operation: multi-channel recording, playback and network operate simultaneously
Interface	User friendly graphical interface
Input Devices	Front panel, USB mouse, remote control and network simulator
Input	Arabic numbers, English and Chinese (optional)
Shortcut	Copy/paste operation, USB mouse right-key shortcut menu and USB mouse screen switch function
Video Compression	MPEG4/H.264
Audio Compression	PCM
Video Input	3CH composite video input: (NTSC/PAL) BNC ($1.0V_{P-P}$, 75Ω)
Video Output	1 PAL/NTSC BNC ($1.0V_{P-P}$, 75Ω) composite video output, 1 VGA output;
Video Standard	PAL (625 line, 50f/s), NTSC (525 line, 60f/s)
Recording Speed	Real-time mode: PAL 1f/s to 25f/s per channel and NTSC 1f/s to 30f/s per channel Non-real-time mode: PAL 1f/s to 6f/s per channel and NTSC 1f/s to 7f/s per channel
Display	1/4 windows
Resolution (PAL/NTSC)	Realtime: CIF 352×288/ 352×240 Playback: CIF 352×288/ 352×240
Motion Detection	192 (16×12) areas configurable; multi-level detection sensitivities
Image Quality	6 level image quality
Area Covering	Random size selectable for protected area coverage
Image Information	Channel information, time information and protected area coverage information
TV Adjust	Auto-adjustment for anamorphic images; luminance and contrast configurable
Screen Lock	Specific display screen lockable (blue screen covered for unauthorized users) to ensure data security
Channel Information	Channel name, recording status, screen lock status, video loss status and motion detection status shown on the bottom left of display screen
Color Configuration	Hue, luminance, contrast, saturation and signal gain configurable for each channel

Audio Input	3CH audio input: 200-1000mv 10KΩ(BNC)
Audio Output	1CH audio output: 200-3000mv 5KΩ(BNC)
Hard Disk	Supports up to 2 large capacity HDDs
Hard Disk Consumption	Audio: PCM 28.8Mbyte/Hour Video: 56-900Mbyte/Hour
Hard Disk Management	Hibernating function for non-working HDDs to reduce power wastage and extend life-time of HDDs
Recording Mode	Manual, motion detection, schedule and alarm recording
Recording Duration	1 to 120 minutes single recording duration configurable (default 60 minutes)
Overwrite/Sto p Mode	Overwrite mode and stop mode selectable when hard disk is full
Record Search	Search record by time, type and channel
Playback	Multiple playback mode, multi-level fast-forward, multi-level slow-forward, single frame playback etc
Multi-switchin g Mode	Switch to previous and posterior record Switch to another channel record of the same time Play records continuously (auto-play recordings of the same channel one after another)
Multi-channel Playback	1 channel, 2 channel or multi-channel playback for specific mode
Display Zoom	Split/adaptive/full screen for multi-channel playback
Selective Enlargement	Selective enlargement when in full screen mode
Backup Mode	Backup for HDDs
	External USB storage devices (USB flash memory, removable HDD, USB CD-RW/DVD-RW)
	IDE CD-RW/DVD-RW / DVD-RW
	Network download and backup
Network Control	Network real-time monitoring
	DVR configuration through client-end and Web browser
	DVR update through client-end and Web browser
	Checking video loss and alarm information through network
	PTZ control through network
	Record download and playback through network
	Multi-DVR networking via Central Management Software
	Duplex transparent serial port
	Network alarm input and output
	Voice dialog
	Multi-screen preview
Video Loss	Relay external alarm output and dialog box popup
External Alarm	Relay recording, external alarm output and dialog box popup
Manual Alarm Control	Enable and disable alarm input Simulate alarm signal to alarm output channel

Alarm Input	4 channel grounding alarm input
Alarm Output	3 channel relay output (1 controllable +12V output)
Alarm Relay	30VDC 2A,125VAC 1A
USB Port	Connect with external USB devices
Network Interface	RJ45 10M/100M adaptive Ethernet port
RS485	PTZ control interface, multiple protocols supported
RS232	Common serial port, keyboard interface and transparent serial port
Hard Disk Information	IDE interface status, HDD information, working HDD number
Bit Rate Stat.	Bit rate statistic of each channel; bit rate waveform display
System Log	Up to 1024 system log; search log by time and type
System Version	Recording channel number, alarm input/output channel number, system version, release date etc
Online User	Online user display
User Management	Multi-lever user management; united management for local user, serial port user and network user, user power configurable
	Support adding user and group, and changing of the power (no quantitative limitation)
Password Protection	Password changeable; administrator can change passwords of other users
	Accounts lock: 5 password input trials limitation in 30 minutes
Update	Web browser, client-end and specific update tool
	USB flash memory update (optional)
Login, Logout and Shutdown	Login by user name and password to ensure security
	Logout, shutdown and restart selectable when shutdown
	Shutdown power configurable
Power Supply	220V±25% 50±2% Hz / 110V 60Hz
Power Consumption	35W
Working Temperature	0℃ - +55℃
Working Humidity	10% - 90%
Working Atmosphere	86kpa - 106kpa
Size	200mm*130mm*270mm
Installation Mode	Normal installation and rack installation

1.2 Main Features

Note: Features may differ due to different model and hardware/software version.

Real-time Monitor	• Analog video output port and VGA port enable real-time monitoring, TV output for CIF series DVR • 1/4 window monitoring • Display of real-time bit rate and hard disk consumption • Information of recording, motion detection, video loss, screen lock and etc. • Local view of system log
Compression Mode	• Video Compression: MPEG-4/H.264 • 1/2/3 CH video compression and real-time hardware compression for each channel

	• Real-time synchronization for audio and video
Storage	• 1 built-in IDE port and supports up to 2 large capacity HDDs(expansive support 4 HDDs) • Hibernating function for non-working HDDs accepted to reduce power waste and extend HDDs life time • Overwrite mode and stop mode selectable when hard disk is full • Special storage format for data security
Backup	• IDE port (hard disk and IDE CD-RW) backup and USB port (USB flash memory, USB removable Hard disk and USB CD-RW) backup • Download and backup through network
Recording and Playback	• Multi-task operation: real-time recording, single channel playback, remote monitoring, records search and etc. • Multiple recording mode: manual recording, schedule recording, alarm recording, motion detection recording (pre-recording for alarm recording and motion detection recording) • Record playback through network • Fast classified record research function • Multiple playback mode: fast-forward, slow-forward, single frame and backward • Display of accurate recording time • Selective enlargement under full screen mode
Network Operation	• Remote monitoring • Pan-tilt control • Record search and playback • DVR parameter configuration and software update • Remote alarm management and system log search • Embedded TCP/IP protocol enables Web browser control • Multi-level user management; power configurable for different user and group
Alarm Relay	• 4 channel grounding alarm input for CIF series; video loss alarm and motion detection alarm supported; panalarms includes smoke detector, thalposis detector, IR detector and etc. • Multi-channel relay output, enables alarm relay and onsite lighting control • Protective circuit for both alarm input and alarm output
Communication Interface	• Special interface for alarm input and pan-tilt control • One RS232 port used for keyboard expansion, normal serial port, matrix control and etc. • One RJ-45 port for network control
Pan-tilt Control	• Support pan-tilt decoder using RS485 port • Multiple decoding protocols expandable for pan-tilt and speed dome control
Intelligent Operation	• Mouse supported • Copy/paste function

Chapter 2 Operational manual before installation

Note：For installation, please refer to the related national construction standard.

2.1 Check unpacked DVR

2.1.1 Open the box

When you receive the DVR from the transportation corporation, the first thing you have to do is to check if there is any apparent damage to the appearance. The protective materials used for the package of the DVR can handle most accidental clashes during transportation.

Then open the box to check the accessories. Check the items against the list on the warranty card.

After that you can remove the protective layer of the DVR.

2.1.2 About the front panel and the rear panel

Various key functions on the front panel and various interfaces on the rear panel are introduced in detail in the instruction book.

Please check the model on the front panel against your purchase contract carefully.

The tag on the rear panel is very important to our after-sales service. Don't tear it up or discard it (otherwise we won't provide warranty service).When you call our company for after-sales service, we always need you offer the product's serial No.

2.1.3 After open the outer cover, you should check:

Besides checking apparent damages, please check whether there is any loose connection between the front panel's data ribbon, power cable, the cooling fan's power line and the mainboard.

2.2 Installation precaution

Please heed the case earth of DVR.

2.2.1 Install HD

At the first installation, make sure whether the HDDs are installed and right jumped.

2.2.1.1 How to choose hard disks

High speed HD 7200 rpm or plus is strongly recommend. About brand, Maxtor HDD is strongly recommended.

2.2.1.2 How to choose HDD size

1、 Single HD size

For single HD, the user can use 10G-infinite HD, but for better stability, 120G-250G HD is recommended.

2、 How to calculate the total size of HDDs

The computing formula of total HDD size is:

The total size(M) = channel numbers * recording hours * HDD used per hour(M/h)

So we can get the computing formula of recording hours:

recording hours= the total size （M）

HDD used per hour (M/h)

DVR adopts MPEG4/H.264 compression technology. This technology will produce considerable dynamic range when compressing data. So when you calculate the total HD size, you should estimate the average HDD size per hour per channel.

For example:

For 4-ch DVR, the average size of HDD used per hour per channel is 200M/h. Now if you hope the DVR can record for 30 days with 24 hours one day, the total size of HDD needed is: 4 channels * 30 days * 24 hours * 200 M/h = 576G. So you need install five120G HDD s or four 160G HDDs.

2.2.1.3 HDD installation (see chapter 3 for installation diagram)

Data ribbons, fastening screws and humanistic HDD shelf design are already provided in the accessories to benefit you to install HDDs.

One point you should take special attention is about HDD jumper wire:

If only one HDD is connected to an IDE port, you should set the HDD to MASTER. If two HDDs are connected to one IDE port, you must set one as MASTER and the other as SLAVE. Please don't set HDD as CS Enable or Cap Limit.

After HDD installation, please check connection of data ribbon and power cord, then mount the outer cover.

2.2.2 About CD burner

1.ATM DVR supports IDE port and USB port. ATM DVR supports USB port. If you use IDE port to connect CD burner, you'd better set the jumper as MASTER.

2. You'd better use our company's already tested brands. You can consult the technical support or visit our website for details.

2.2.3 Connection of exterior power supply

Confirm the right position of the toggle switch near the power socket according to the input voltage.

We recommend you use stable and less wave interference power supply that will benefit steady operation and useful time of DVR. It also benefits operations of other peripheral equipments such as cameras. If possible, UPS power is the best choice.

2.2.4 Install DVR in the machine cabinet

The size of DVR is，200mm (Wide)x130mm (Deep)x270mm (High)

Put the cabinet in ventilated place. Avoid extreme heat, humid and heave dusty conditions. After long time use, you should clean inlet opening, cooling fan etc. with a soft dry brush.

2.3 Connection of video/audio input/output

2.3.1 Connection of video input

The video input interface is BNC. The request of video input is PAL/NTSC BNC（1.0V_{P-P}，75Ω）.

The video signal should comply with national standards. High SNR, low distortion, low interference, natural color and suitable lightness are also needed for the video signal.

Guarantee the stability and reliability of the camera signal:

The camera should be installed at suitable place. Under backlighting, low illumination surroundings that are not suggested, the user should use backlighting compensation camera or low illumination camera.

The power supply of the camera should have the same grounding with the power supply of the DVR to ensure the normal operation of the camera.

Guarantee stability and reliability of the transmission line

Use high quality, good shielded BNC and choose suitable BNC model according to the transmission distance. For too long distance, you should use twisted pair, add video compensation devices or use optical fibre transmission to ensure video quality.

You should keep the video signal away from the strong electromagnetic interference, especially the entry of high tension current.

Keep connection lugs in well contact:

The signal line and shielded wire should be firm and in well connection. Avoid dry joint, lap welding and oxidation.

2.3.2 Audio input

HD1 4/8-ch use BNC. 16-ch uses RCA audio cable via a 25-pin tieline. ATM SERIES use BNC.

Due to high impedance of audio input, you must use active sound pick-up.

Audio transmission is similar to video transmission. Try to avoid interference, dry joint, loose contact and entry of high tension current.

2.3.3 How to choose and connect video output device

Video output includes a BNC(PAL/NTSC BNC（1.0VP- P， 75Ω）)output and a VGA output.

We recommend you use the industrial monitor as video output device.

The industrial monitor has the following advantages:

1、 Can adapt industrially long-time monitoring. Ordinary civilian device is easy to age, damage and even burn under long-time playing.

2、 Has higher definition and color recover ability that the civilian device is uncomparable.

3、 Better stability and anti-interference ability, adapt to various complicated surrounding.

When pc-type monitor is used to replace the monitor, the following points should be noticed:

1、 To defer aging, the pc monitor cannot be powered on for long time

2、 Regular demagnetization will benefit the monitor to work in normal state.

3、 Keep away from strong electromagnetic interference devices.

Using TV as video output device is not a reliable substitution method. The user also need reduce the hours of use and control the interference from power supply and other devices. The hidden short circuit problem of low quality TV may bring damages to other devices.

2.3.4 Audio output

The audio output parameter of DVR is 2000mvp-p 1KΩ(BNC). Can connect directly with low impedance earphone, active sound box or amplifier-drive audio output device.

If the sound box and the pick-up cannot be separated spatially, it is easy to arouse squeaking. At this time you can adopt the following measures:

1、 Use better sound pick-up with better directing property.

2、 Reduce the volume of the sound box to the value under which squeaking will not happen.

3、 Using more sound-absorbing materials in decoration can benefit to reduce voice echo and improve acoustics environment.

4、 Adjust the layout to reduce happening of the squeaking.

2.4 Connection of alarm input and output devices

Before connection, please pay attention to the following points:

1. Alarm input

a. First confirm if the alarm input is grounding alarm input or voltage alarm input.

b. Alarm input: for D1/HD1series, 5~15v is needed for voltage alarm input. For CIF series, grounding signal is needed for alarm input.

2. Alarm output

The alarm output port should not be connected to high power load directly to avoid heavy current which will destroy the relay, but you can use the cocontactor to realize the connection between the alarm output port and the load.

3. How to connect PTZ decoder

a. Ensure the decoder has the same grounding with DVR, otherwise possible common mode voltage may fail to control the PTZ. Shielded twisted wire is recommended and the shielded layer is used to connect to the grounding.

b. Avoid the entry of high voltage. Ensure proper wiring and some thunder protection measures

c. For too long signal wires, 120Ω should be parallel connected between A, B lines on the far end to reduce reflection and guarantee the signal quality.

d. "485 A, B" of DVR cannot parallel connect with "485 port" of other device.

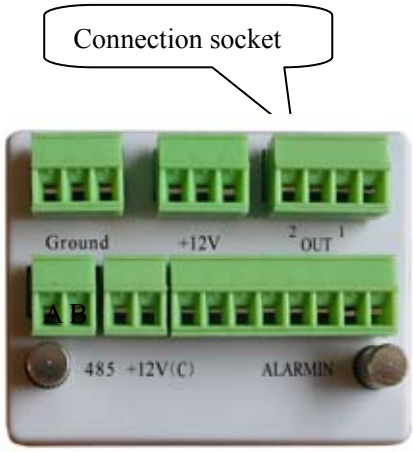
e. The voltage between of A,B lines of the decoder should be less than 5v.

4*. "+12v" output (D1 and HD1 have this output port. CIF hasn't).

Provide the power to alarm device with current less than 1A.

5. Poor grounding of the front-end devices may cause damage to chips.

The alarm input type can be Normal Open or Normal Close.



series: (alarm converter)

1. "Ground": ground wire
2. "+12v": Provide the power to alarm device with current less than 1A
3. "OUT 1、2" is two alarm outputs switch(normal open)
4. "485 A、B" is communication connection, used to connect with recorder control devices such as control decoder.
5. "+12（C）" is controllable power output—the third alarm output, is used for standby power for smoke detector alarm device. Dismiss of the alarm needs the device to turn off the power.
6. "ALARMIN(1…4) voltage alarm inputs. Alarm input should be ground

2.4.1 Instructions about alarm input end:

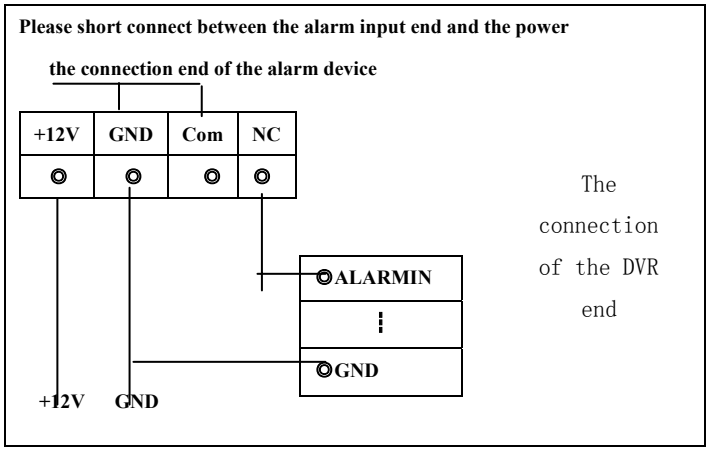
1、Alarm input:

·4 channel alarm inputs (Both Normal open and Normal close type)

• Please short connect between **COM** end and **GND** end.

• Please parallel connect the Ground of the DVR with the ground of the alarm detector

• Please connect the NC port of the alarm sensor to the DVR alarm input(ALARM)



• If you need to restore the touched-off alarm remotely, you have to supply the controllable 12 V power of the DVR to the alarm detector, such as the smoke detector.

2.4.2 Instructions about alarm output end:

2 ways relay alarm output (normal open contacts). Should provide the power supply to the alarm detector.

To avoid over loading, please read carefully about the related parameters of the relay. (See below table)

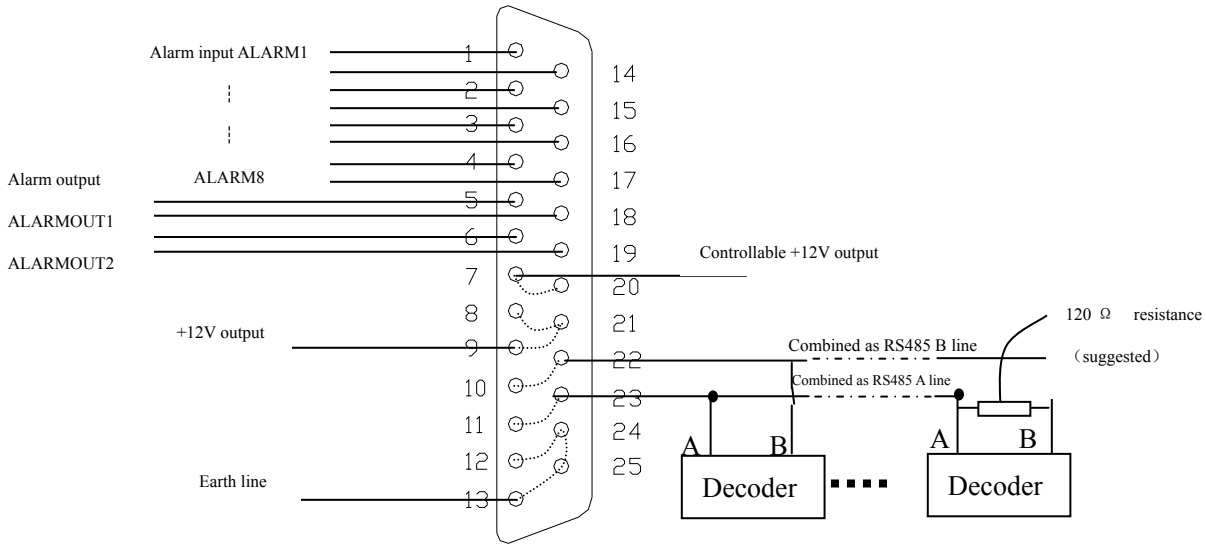
The controllable +12v can provide the power for restorable smoke detector.

2. 4. 3 Relays' parameter of the alarm output end

Model: JRC-27F		
Material of the contacts	Sliver	
Rating（resistance load）	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125A 160W
	Maximum switch voltage	250VAC,220VDC
	Maximum switch electric currency	1A
Insulation	Between touches with same polarity	1000VAC 1minute 50/60Hz
	Between touches with different polarity	1000VAC 1minute 50/60Hz
	Between touch and loop	1000VAC 1minute 50/60Hz
Surge voltage	Between touches with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	100×106 times (10Hz)
	Electric	200×103 times (0.5Hz)
Temperature	-40~+70℃	

Supplementary: the definition of 25-pin RS485 port (for D1 and HD1 series)

The 25-pin RS485 port is for realize pan-tilt-zoom control; enables the triggering of Alarms. RS485 connection can control various pan-tilt-zoom decoders, and the specific type of the decoder can be selected in the setting in the menu. Switch out pin number is marked on DB25 plug. The definition of the pin is as below.（The broken line in the graph means being connected inside.）



a) 1、14、2、15、3、16、4、17 connects to alarm input: ALARM1~ALARM8；
b) 5、18-OUT1，6、19-OUT2 two linked normally open output:
c) 7、20-OUT3 are connected inside，either is controllable +12V output；
d) 8、9、21 are +12V power output, able to be as the power supply for alarm sensors；
e) either pin of 10、22 is the B line of RS485, either pin of 11、23 is the A line of RS485;
f) 12、13、24、25 are earth lines.

2.5. Select and configure recording mode

The DVR can provide multiple recording modes. The user should select and configure the recording mode due to actual need. To get the best balance between the recording time and HDD space used, the user should pay attention to the following points:

1、 The recording period for the motion detection or alarm recording can not overlap with the schedule recording.

2、 Under poor illumination, the user should avoid to use motion detection recording. He had better use more stabilized alarm recording with linked light control to assure the recording quality and rational use of HDD.

3、 The sensitivity of motion detection should be adjusted according to spot environment test to avoid to false report or fail to report.

2.6. Network connection

DVR provides a standard RJ45 port and embedded TCP/IP protocol to connect LAN or Internet. During constructing a LAN, please use switch instead of HUB guarantee adequate bandwidth and avoid too long wiring distance. Please choose suitable bandwidth access mode.

Ethernet cable should be made according to standard.

Note: Please apply this manual to the right models. It is prohibited to use this manual to install or operate other manual.

Chapter 3 Installation

3. 1. Hard disk installation

Please check whether HDDs are installed at the first use. Up to eight 10G-infinite capacity hard discs can be installed internally.

Installation steps

①Remove the screw

②Remove the cover

④Install first HDD ensuring bracket is in correct position

⑤Install second HDD ensuring bracket is correct

⑥Screw the bracket

⑦Connect the HDD to the IDE port via the data communication cable

⑧Connect the power cord to the HDD

1

⑨Replace the outer casing

Note：Connect USB mouse, USB storage to the USB port directly.

3. 2 Front panel introduction

1. LCD 2. Function assistant 3. LCD power switch 4. Record

5. Up Direction 6. ESC 7. Right Direction 8. Enter

9. Down Direction 10. Left Direction 11. Play last section 12. Slow play

13. Play/pause 14. Fast forward 15. Play next section

3. 3 Keys functions

No	Key name	Sign	Function	Remarks
11	Play last section	I◀	Play the last recording file before the current file	Number 1
12	Slow play	I▶	3 levels of slow play speed adjustable: (15f/S - 5f/S & frame by frame)	Number 2
13	Play/pause	▶/II	Play/pause	Number 3
			When in real time mode, press to enter record search menu	
			Direct enter record search menu	
14	Fastforward/ 8	▶▶	Multi-level fast-forward Number 8	Number 4

15	Play next section	►I	Play the next recording file after the current file	Number 5
4	Record	●	Start/stop recording, work with arrow keys or Num keys	
2	Function	**Fn**	Click to display the PTZ and the Image menu under full screen mode Shift the PTZ function menu in Pantilt	
			To enable Cursor field selection with the arrow keys when set the MD area	
			To display the playback state bar during playback	
			Choose/Cancel the backup file when backup	
			To shift the time and HDD information in HDD info menu	
6	ESC key	**ESC**	Escape or cancel	Number **0**
			Go back to real time monitor from playback	
8	Enter	**ENTER**	Enter Cursor Selection	
			Enter main menu	
5, 7, 9, 10	Direction key	▲ ▼	Switch the monitor window	▲Number **6**
			Change number	▼Number **7**
			Change setting	
			PTZ control	
		◄►	L & R On screen Cursor Control; shifting level 1 and level 2 menus;	◄Number **8**
			PTZ control	►Number **9**

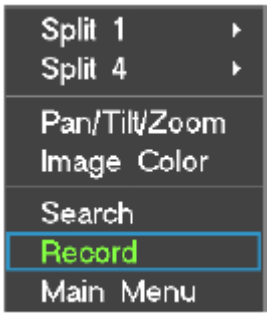
3.4 Mouse operation

This manual takes right-hander as an example

Besides the front panel and the remote control, the user can also use mouse to operate the menu.

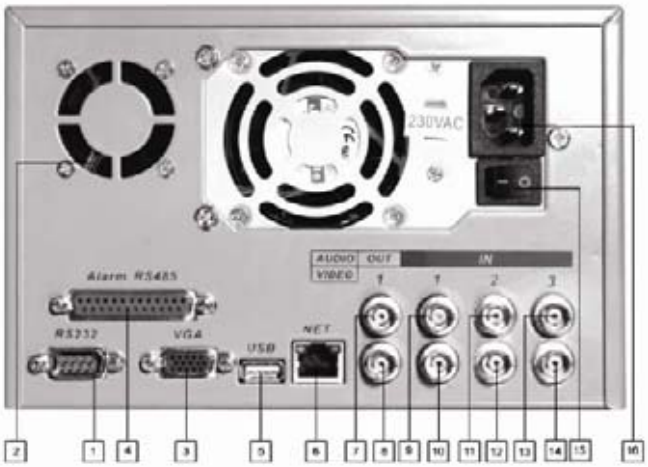
Connect the USB port to the USB port of the DVR

Click left mouse button	The system will pop up a password-input dialogue box if the use doesn't log in. When in live monitor, click left mouse button to enter menu setting.
	Clicking a menu icon will enter this menu
	Execute prompted operation
	Change status of check box or motion detection area
	Click number frame or password frame to pop up the number panel Clicking a number on the panel will input this number. Clicking X will clear the input. Clicking √ will confirm the input and close the panel.

	Click combo box to pop up drop-down list box
Double click left mouse button	Execute special operation. For example, double clicking an item in the records list will start this record playback.
	When in multi-windows, double clicking a channel will make this channel display in full screen. Double clicking this channel again will switch back to multi-window status.
Click right mouse button	When in live monitor, right click will pop op a shortcut menu: multi-window mode(this mode depends on the number of channels of DVR, for 4-ch DVR, only 1-ch and 4-ch are available), Pan-tilt control(the user must set the protocol at first, otherwise related information box will pop up), image color, search, record and main menu. Pan-tilt control and image color only work on the channel where the cursor locates. If in multi-window mode before setting PTZ or image color, the system will switch to single window mode automatically. 
	Cancel the setting and exit the current menu
Running steel-ball	When inputting numbers in number frame, running steel-ball will increase or reduce the value in number frame.
	Shift options in combo box
	Page up or Page down in list box
Mouse moving	Select the control bar or one option, then move
Mouse dragging	Left click the menu title bar or playback control bar and drag, after releasing the left button, they will stay in the new position
	Select motion detection area
	Click the menu title bar and drag, move the coordinate of the menu.

3.5 Back panel introduction

Notes: interrface is a bit different between different models. The actual interface is the final.



1.RS232 2.Power fan 3.VGA output 4.RS485 5.USB Port 6.RJ45 7.Audio output 8.Video output 9.Audio input 1
10.Video input 1 11.Audio input 2 12.Video input 2 13. Video input 3 14.Video input 4 15.Power Switch 16. Power plug

Note: Use crossover cable to connect DVR directly to computer.

Chapter 4　System operation

Please confirm the HDD to be installed and the proper connection before turning on the DVR

***For the connection method, refer to Chapter 3 ----Installation ***

4.1. Turn on / off the recorder

4.1.1 Turn on the recorder

Plug in the power cable; switch on the power button at the back of the recorder; power indicator light on; DVR on; default multi-windows for the video output display; If the starting time is within the programmed recording time, the system will start recording function automatically. Corresponding channel indicator lights on and system works in a normal manner.

Note: if the system stops during HDD Boot detection, the HDD may not be installed right and please check the HDD connections (Ribbon and Power Connections).

4.1.2 Enter the setting menu

After booting up, press **Enter** (or click the left mouse button), a dialogue box will pop up. Input user name and password to enter the setting menu. You can add or delete customized user groups. There are two default user groups: USER and ADMIN. Ever user in the same group has the same power right.

The default password for the USER group is 666666 and the default one for the ADMIN group is 888888.

It is recommended that the customized user group have less power right than the administrator group, which will benefit user management.

Note：For security reason, please change the default passwords. If you want to add new user group, add new users or modify the related parameters of a user group, you can refer to menu operation——Account。。

4.1.3 Turn off the recorder

Please unplug the 220VAC power supply during HDD installation

Press the POWER key on the front panel for 3 seconds to stop the current operations. Then switch off the power button at the back panel of the DVR to turn off the power.

4.1.4 Power off recovery

When the power is cut off abnormally, the recorder will recall its last state and continue where it left off. The state indicator light is the same as it was before the power off.

4.1.5 Change the battery of the DVR

Change the battery of the DVR, recommend to the same type of Lithium fastener batteries

Note: Please check the system time in time and generally change the battery each year to ensure the veracity time.

4.2 Recording operation

The user can choose the suitable recording mode according to his demand. When in recording mode, the recording sign will appear on the corresponding channel.

4.2.1 Manual recording

• ·Press "Rec" button on the remote controller or "●" on the front panel (Need input the administrator password)，or under **ADVANCED**>**MANUAL RECORD**

• ·Check the status of each channel in the recording menu. Highlight means the related channel is recording.

Menu instruction	Button pressing order	Instructions	Display on screen
	2、arrow key ▲▼ or related number key	Turn recording on AND off. Highlight means turning on recording	
	3、arrow key ◄►	Shift between recording channels	
	4、Save	Press OK to save the setting	

• Turn on recording：When the channel is not recording with "□"，press the related number key（or use▲▼arrow key、jog shuttle、mouse）to make it highlighted("■")，then select ONE DAY or PERMANCNE in **AVAILABLE WHEN START,** press ok to save the setting.

• Turn off recording： press the related number key again(or use▲▼arrow key、jog shuttle、mouse) to remove its highlight("□").

• Press ESC to exit and OK to save the setting. Select ONE DAY or TRIGGER in **AVAILABLE WHEN STOP.**

Turn on or off recording for all channels: Press **ALL** to make it highlighted("■") or remove its highlight("□").

4.2.2 Schedule recording

The default recording mode after the starting of DVR is 24 hours continuous recording. The user can choose the suitable recording mode according to his demand.：the details are under MAIN MENU>SETTING>SCHEDULE

Schedule Recording

Including the settings for General, MD, Alarm recording.

Select the related channel in Channel. If you want to set all channels together, choose 'ALL'. In check box Week day, highlight means this day has been selected for the setting. (More than one day can be

chosen).Prerecord means the system can pre-record from 3sec to 5sec before the action. (The pre-recording time is relevant with bit rate. From Period 1 to Period 6 you can choose the recording period of the current channel for GENERAL, MD or ALARM. You can choose different recording mode during the same period. The six periods should not be overlapped.

The time setting scope is from 00：00 to 24：00. After setting all channels, press **OK** to save.

。**Shortcut setting：** You can copy the setting of A channel to B channel. For example, in channel 1, after setting, click **COPY**. Then switch to channel 5, click **PASTE**. You will find the setting of the channel 5 is the same with the setting of the channel 1.

Notes: the shedule sketch picture is shown below the record setting, and the color shows the efficiency of the record type setting. Green means Regular;yellow means MD; red means Alarm.

4.2.3 Motion detection recording

When motion detection happens in a channel, the MD sign will appear on the channel.

- Set the motion detection region for the channel.
- Set the related options under MAIN MENU>SETTING>DETECT to start MD recording.

Channel: Select the related channel for motion detection

Start Record: Select the recording channels when motion detection happens.

Alarm Output Starts up external alarm devices which are connected with the alarm relay outputs of DVR when motion detection happens.

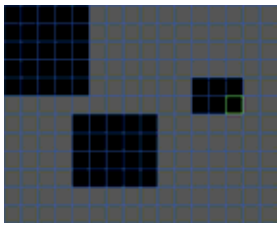
Delay means to lengthen the recording time when motion detection ends. The scope is from 10 sec to 300 sec.

Sensitivity has six levels: 1, 2, and 3,4,5,6. The highest sensitivity level is 6.

Video loss: You can choose Alarm Output and Show Message when video loss happens. There is also motion detection Show Message on the monitor.

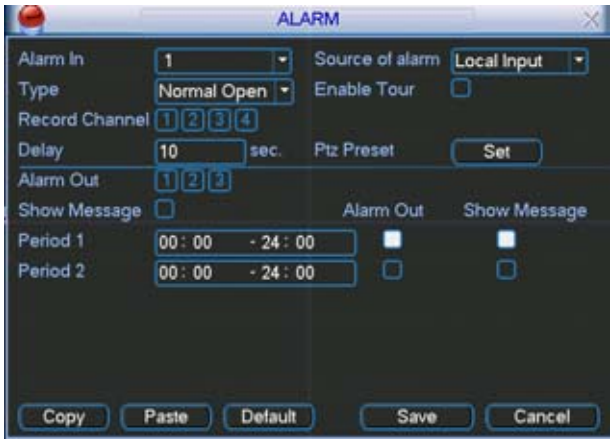
Black detect: Alarm Output and Show Message can also be chosen when the screen on the channel is black because of light, etc.

In Region, move cursor to set, and then press ENTER. The setting area has been divided into 192 sections. Green section means the current cursor position, and black section is the armed motion detection area. The blue area is disarmed motion detection area. Press Fn to toggle between armed mode and disarmed mode. When in armed mode, you can press the arrow keys to cover the MD region. After the setting, press ENTER to confirm or ESC to cancel. Before you exit DETECT, you must press Save to save the setting.



Prompt: You can use mouse dragging to select motion detection region without Fn key. Right click to exit the region, and then click Save to save the setting. Copy and Paste can be used for the same setting between different channels.

4.2.4 Alarm recording



• See MAIN MENU>SEETING>ALARM

Connect alarm sensors to the alarm input port according to the related instruction of Chapter 2

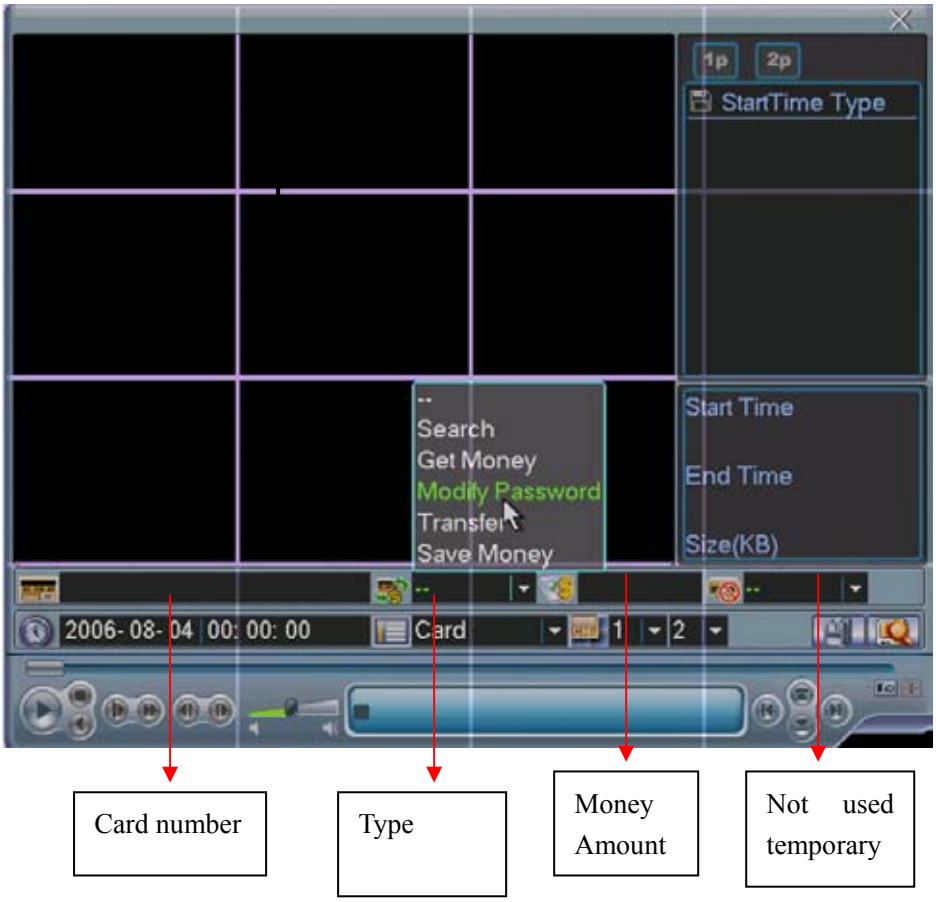
•Connect the related alarm output(such as light, buzzer, etc.)

Alarm Channel Select the related channel （1-16）. Type has Normal Open /Normal Close voltage output modes. Start Record select the recording channels when there is alarm input (Can choose more than one channel). Alarm Output Choose alarm output ports when there is an alarm input. The first and second ports will trigger corresponding relay. The third port output controllable 12 voltage. Delay means to extend the recording time after receiving disarmed signal(10、20、30、……90SEC). When the outside alarm is disarmed, the system will extend the recording time automatically before closing alarm relay output.

Show message Highlight means display the message for alarm output in the monitor.

4.3 Playback

4. 3.1 Framework



Records Search	Instructions	Display
Enter **SEARCH** menu	1、 Press play/pause on the front panel to enter **SEARCH** menu. 2、 Click MAIN MENU>SEARCH to enter **SEARCH** menu. **Note**：If you have logged out, password should be inputted again.	
Playback	You can search the records according to Type (All, Alarm, Motion detection, All alarm,Card), Channel and Time.，the screen shows the 32 recording files following the searching time. use |◀ 、▶| to page down and page up. You also can use mouse to drag the slide button to view the desired record. Press **ENTER** or double left click to start the playback. **Note**：records type：R—general records； A—alarm records；M—motion detection records;C—card records. In **ADVANCED>PALYBACK SETTING,** Select one channel or two channels. If you choose two channels, two records on two windows are played simultaneously. Card Search：Only card records has been selected, the card input dialogue will popup In the search condition.	

2、Playback status bar	The bar displays Channel No. , date, time, playback speed, playback progress. Can control playback speed, sound volume, etc. You can hide the bar by pressing ↑ on the front panel or hide icon on the top right corner of the playback status bar.	
3、Shift to other channel during playback	During playback, press numeric key (1 to 16), then the system will start to play the synchronizing records on corresponding channel	

4.3.2 How to operate fast play and slow play during playback

Button-pressing orders	Instructions	Remark
1. **Fast play:** press the key ⏩	During playback press this key to shift between multiple fast play speeds. **Fast play** key can be the reverse shift key of **Slow play**	Playback speed is relevant to the version
2. **Slow play:** press the key▶	During playback press this key to shift between multiple slow play speeds. **Slow play** key can be the reverse shift key of **Fast play**	
2、Play/Pause	During slow play press this key to shift between play and pause.	
3、Play next section, play last section	During playback status press⏮ ⏭to view the next or last record of the same channel.	

4.3.3 Jog shuttle special function

Jog shuttle special function	**Instruction**	**Remark**
1. Fast play	During playback, turn the outer ring clockwise to change fast play speed	During fast play, press play/pause⏵ twice to switch back to normal play.
3. Frame by frame playback manually	During playback, press **Play/Pause,** then turn inner ring of the jog shuttle clockwise slowly to start frame by frame playback. Turn inner ring counterclockwise to start I frame playback.	

4.3.4 Backward playback

Button pressing order	Description	Remark

Backward playback(◀ on the playback control bar)	During playback, click ◀ to start backward playback. Click ◀ again to stop backward playback.	During backward playback or frame by frame playback, click ▶ to switch to normal playback

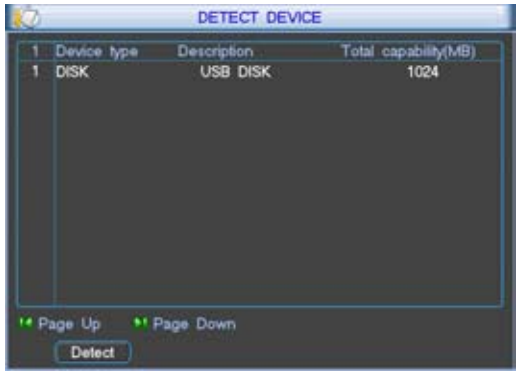
Note:

1、During the above operations, the system will display playback speed, channel No. , time, playback progress, etc. on the playback control bar.

2、Some functions depends on the hardware version, such as backward playback, frame by frame playback manually and playback speed. For example, for HD1 DVR, frame by frame playback manually is extensible. Some hardware version may not support some functions or playback speed. The prompt on the playback control bar is the final. You can also consult our company's technical support.

4.4 Back up

The user can back up records through CD-RW burner (extensible for CIF products), USB storage or network. First introduce storage operation through USB port. For network storage, you can refer to the client end operation.



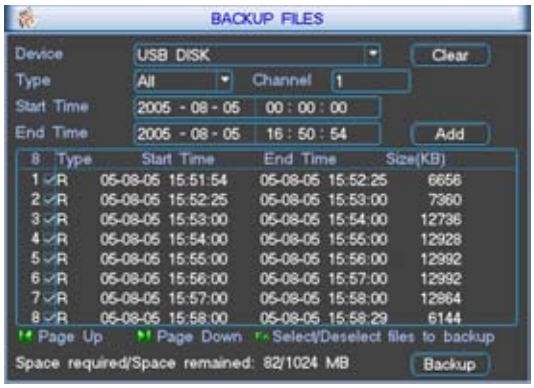
4.4.1Detect device

Back-up device can be CD-RW or USB, etc. Immediately checked devices and the total capability can be displayed.

4.4.2Back-up operation

Select a device (CD-RW or USB). If you want to clear files on this device, click Clear.

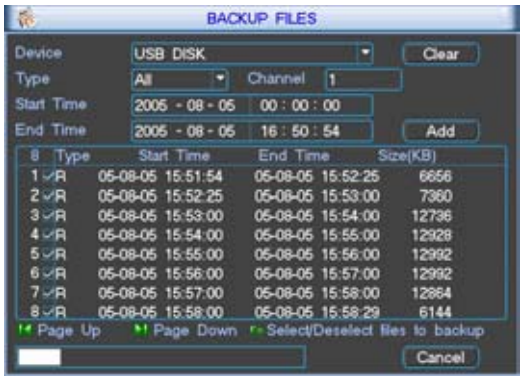
Back-up operation: select the device, channel, starting time and ending time, then click Add. Matched records will be displayed. There is a check mark in front of the recording type for every record. You can continue to set searching time and other options then click Add. New matched records will follow already listed records. Click Backup to back up records. If you don't want to back up a record, you can use Fn to cancel the check mark. The system only backups records with check marks. The screen also displays needed space and free space on the bottom. After clicking Backup, a progress bar will pop up.



Note: During backup, you can press ESC on the front panel to exit the screen, but the backup is still going on. If the user does

not connect the backup device correctly, the system will display: No backup disk; if the user doesn't choose records or some errors happen during backup, the system will have corresponding display.

Delete backup



During backup, the user can cancel backup manually. After clicking Backup, the Backup button becomes Cancel button. Clicking Cancel will stop backup. If the device is USB storage (flash or mobile HD), the records before clicking the Cancel button will be stored in the device. For example, During a 10 minutes long record backup, if it is stopped at the fifth minute, there is 5 minutes long record on the device. For USB CD-RW, if the user cancels the backup, the record on the CD is invalid. The format of the backup record's name is: CH+ channel NO + date+ time

Some tips when using CD-RW to backup records for D1 or HD1

i. Choose CBR mode.
ii. Disconnect net to avoid error
iii. Recommend to use SONY(IDE brand is CRX230A) and BENQ (USB brand is 5232WI).These two brands have already been tested. Other tested brands are on our company's website.

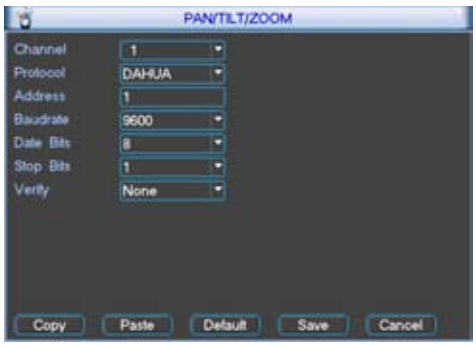
4.5 Pan-tilt control and image color control

The controlled camera must be displayed on the monitor in full screen

When in a single window, press Fn on the front panel, PAN/TILT and IMAGE will display on the monitor

- confirm the right connection between PTZ and decoder. Set the proper decoder's address.
- Confirm the right connection of decoder's A、B line and the A、B line of DVR
- Set the related options under menu

SETTING>PAN/TILT/ZOOM



Channel Select the relevant channel. Protocol Choose the protocol of the brand name of corresponding pan-tilt decoder (e.g.: DH-CC means Dahua Decoder). Address is the address of the corresponding PTZ decoder. Baurate Choose the corresponding baud rate of the

decoder.

Save all the settings and come back to single windows monitor,

then click Fn key to set the PTZ-control:

Can control the PTZ's direction, focus, iris, zoom. Can set pre-set position to make the PTZ auto cruising.

Pan/tilt/Zoom

Note：Grey show for no support function

The direction, step, zoom, focus, iris, preset, patrol, pattern, auto scan, aux on, aux off ,auto pan can be controlled. Use the direction keys to set.

Select"**Pan/tilt/Zoom**"，Pop up the menu as picture 1.Support Pan/tilt and lens control.

图 1

The pan/tilt support 8 directions: Up、Down、Left、Right、Leftup、Leftdown、Rightup、Rightdown。（Use the front panel, only Up、 Down、 Left、 Right can be used for direction control）

Quick location：

In the middle of the direction keys is the quick location key, only the pan/tilt with this protocol can be used and it only can be controlled by mouse. Click and enter the quick location menu. The steps are as follows: click any point on the screen, the pan/tilt will move this point to the center. And zoom function supported in the quick location interface, drag the mouse, and the square made supports 4-16 zoom function. Drag the mouse form up to down, the camera will zoom in; drag the mouse form down to up, the camera will zoom out. The smaller the suare is, the stronger the zoom is.

Name	**Fn key**	**Function**	**Corresponding Shortcut key**	**Fn**	**function**	**Corresponding Shortcut key**
Zoom	—	tele	slow play ▮▸	+	tele	Fast play ▸▸
Focus	—	near	Last record ▮◂	+	far	Next record ▸▮
Iris	—	close	backward ⏸◀	+	open	playback ▶⏸

Step：

The step is mainly used for direction control. If there is a new protocol supporting zoom or iris step, and they can also be controlled.（The value can be obtained through the front panel.(1-8,8 means the biggest).

Click set in picture 1 to enter picture 2 and set preset ,patrol,pattern and del preset And so on.

图 2

The function options in picture 2 are based on the protocol. If the protocol doesn't support some functions, the keys will show grey and can not be selected.

Click any one of the two buttons(not grey show),it will go to picture 1.You can also press the ESC button on the front panel.

Click Page Switch to enter picture 3.There are expansive function.

图 3

Support Preset,Patrol,Pattern,AutoScan,AutoPan,Aux On,Aux Off,and LightOn.

Notes：The preset, patrol , pattern and ax on/off need values as control parameter, and the parameter here has no value inspection. The first three parameters are set by users, and aux on/off refers to the dome manual. In some conditions, it can be used for special functions.

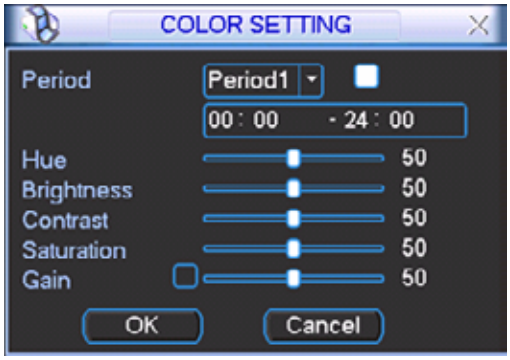
Click Page Switch to enter picture 4. It is the menu of the pan/tilt and also according to the protocol.（Only DH-SD1 and DH-SD2 can enter this menu now）

图 4

Direction keys are mainly used for menu control. The button will be supported by the protocol. If not supported, it will show grey. Click enter and ESC to enter or quit the menu of the dome. Click Page Switch to return to picture 1.

Image Color：

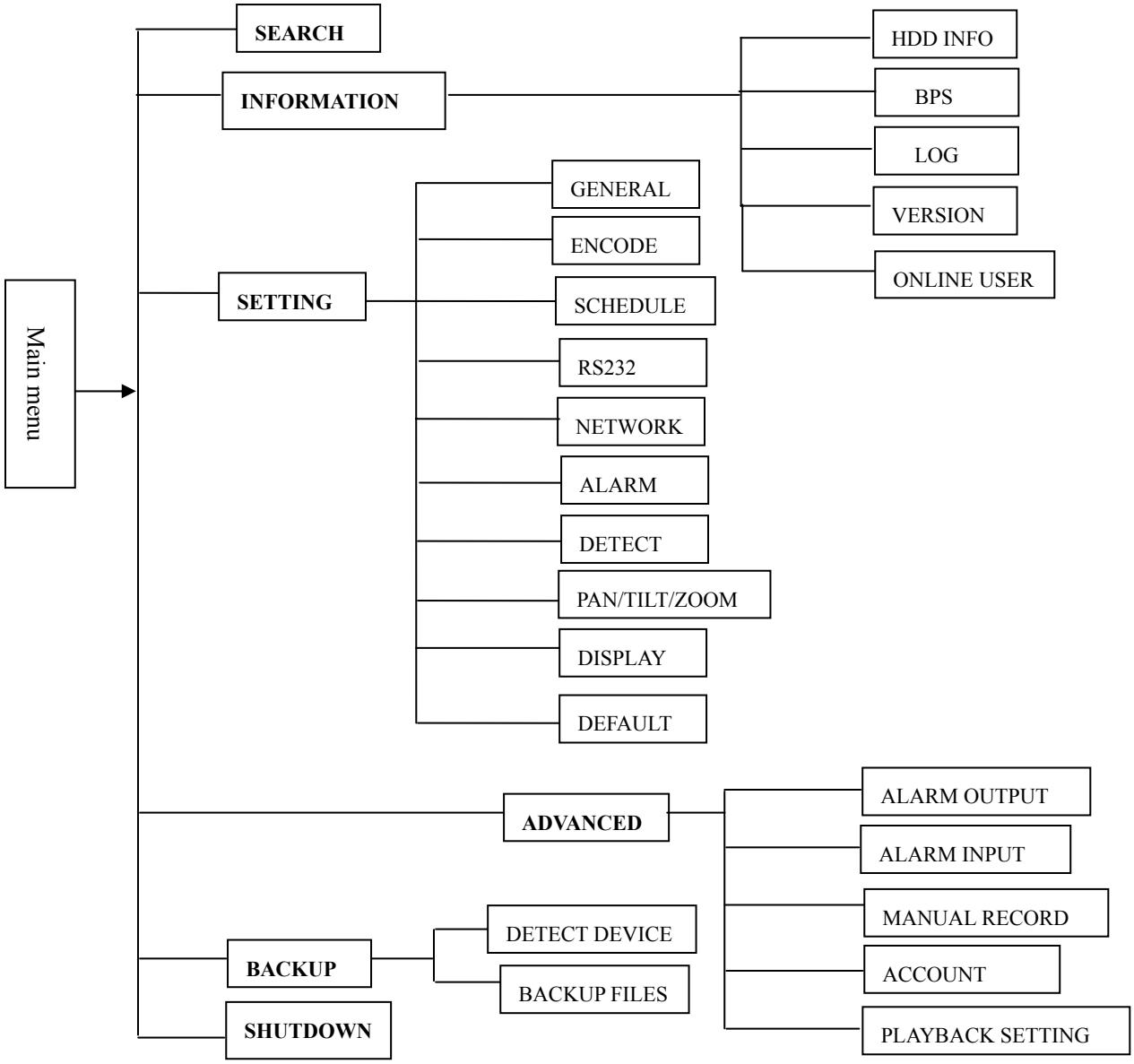
Set Hue, Brightness, contrast, Saturation and Gain in different schedule.



Notes: the schedule should be 24 hours and the time of 24 times should be integrate.

Chapter 5 Menu operational guide

5.1 Menu structure



5.2 Menu Overview

Main menu	Menu level 1	Remarks
SEARCH		Records search and playback. You can search the records according to Type (All, Alarm, Motion detection, All alarm,Card), Channel and Time. The matched records will display on the list. Choose a record and start playback. R-general record A-alarm record、M-motion detection record, Card record
INFORMATION Display the HDD information, BPS, Alarm State, System log, Version and etc	**HDD INFO**	Displayed the IDE ports' state, the total and free space for all HDDs and every HDD, the record starting and ending time The HDD being used will show as '*' following the HDD serial number Press **Fn** to check the recording time of HDDs
		Display the current BPS and the estimate for HDD space occupied per hour, and the Waveform displays the visualized BPS
	LOG	Display the important system events' log
	VERSION	Display the information about operation system version, issue date and so on
	ONLINE USER	Check online user information

SYSTEM SETTING **Set the system**	**GENERAL**	**Set system time, recording parameter, the machine No., video format and so on**
	ENCODE	**Set image quality, frame rate, coding style and so on**
	SCHEDULE	**Set schedule for General, Motion Detection, Alarm recording.** **Be able to set 6 different periods everyday**

parameter, image settings, Alarm settings, Serial port (RS232) and PTZ settings	RS232	Set the RS232 function and the baudrate parameter
	NETWORK	Set network IP address and video data transfer protocol
	ALARM	Set alarm output and the linked recording channels.
	MOTION DETECTION	See sensitivity, region, alarm output, recording channel, video loss and black screen, etc.
	PAN/TILT/ZOOM	Set protocol and baudrate
	MONITOR	Set parameters of menu output and monitor tour
	DEFAULT	Restore all default setting except menu color, language, time format and video format
ADVANCED	ALARM OUT	Manually produce output signal
	ALARM IN	Enable/Disable alarm input
	MANUAL RECORD	Manually start or end recording
	ACCOUNT	Add, modify and delete user group and user account.
	TV ADJUST	Adjust the output area size and color

	AUTO MAINTENANCE	**Auto maintenance the selected options**
BACKUP	**DETECT DEVICE**	**Detect back-up devices** **List found devices and display the type and capability**
	BACKUP FILES	**Back up records on the selected device** **Pressing Fn can cancel or choose back-up records**
SHUTDOWN		Log out, shutdown system or restart system

5.3 Menu operation

***All the below settings of the menu must be saved before taking effect.**

Include SEARCH, INFORMATION, SETTING, ADVANCED, BACKUP and SHUTDOWN.

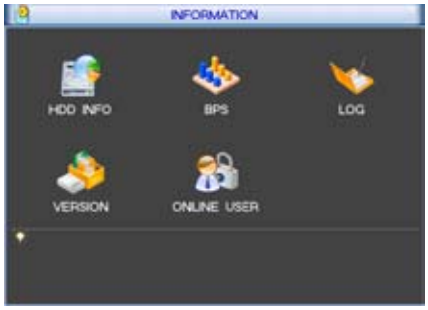
5.3.1 SEARCH

The menu for record search is as the right picture：

Search the records according to Type、channel and time

Prompt：Refer to 4.3 for details.

5.3.2 Information



Menu of Information see the right picture. Includes 5 section: HDD INFO, BPS, LOG and VERSION

HDD INFO

Display the information about: State of IDE ports, HDD state, HDD number, HDD capacity, free space, the start and end recording time and so on.

The TYPE item has only two options: Read Only and Read/Write. '*' following the HDD number means the HDD being used.

×'means error on the corresponding HDD

'-'Means no HDD on this port. If the user want to change the error HDD, he must power off DVR first.

After DVR start up, if there is HDD collision, the right picture will show up. At this time, the user should check whether there is any collision between system time and recording time (for example: the system time is ahead of the recording time). If it is true, change the system time to ensure the correct recording data.

NOTE: Press Fn or left click view recording time to switch to HDD type and capacity.

BPS

Display the bit rate per second (Kb/s) and estimated HDD space occupied per hour HDD (MB/h)for each channel.

LOG

Display log information to convenience the user to check the operations on the system.

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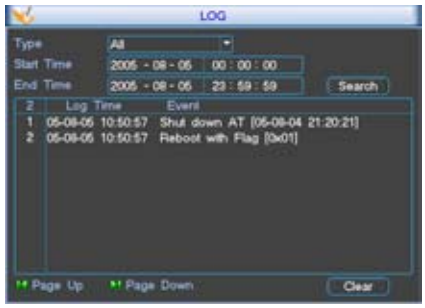
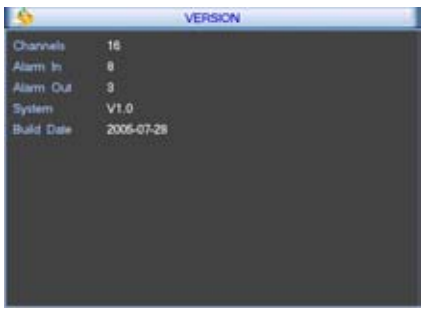


VERSION

Display hardware version, the issuing date and version of the operation system, etc. The information is read only.



ONLINE USER: Check DVR's online users

5.3.3 SETTING

Menu of the system setting is as the right picture Including: **General, Image, Schedule, RS232, Network, Alarm, MD, Pan-tilt, Monitor, Defaul**t and so on;

Note: Only Administer is allowed to enter the Setting menu.

General

System Time is used to modify the current system date and time. After the modification please save the change by clicking SAVE on the top right

Date Format is for choosing the date format

Time Format includes 24 hours format and 12 hours format

Language including Simple Chinese, Traditional Chinese and English.

In HDD Full, the user can choose **Overwrite** or **Stop** mode .If **Overwrite** is chosen**,** system will covers the previous recording files

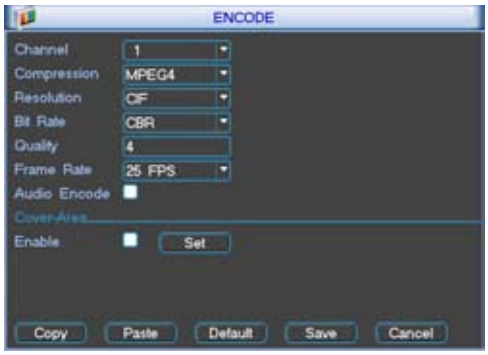
Pack every can set the length of each recording file (15mins、30mins、60mins)

DVR No. Setting address here for controlling several DVRs using one remoter

Video Standard includes NTSC format and PAL format.

Note：System time cannot be changed freely; otherwise it would cause the malfunction of recording search.

Encode



In Channel, select the related channel. In Compression, choose MPEG4. In Resolution, there are D1, Half D1, DCIF and CIF. (For Half D1 DVR ,only Half D1, DCIF and CIF are available. Bit Rate includes VBR and CBR. In Quality, there are 1, 2, 3, 4, 5& 6 levels of image quality. Frame Rate 1f/s -25f/s is selectable

In Audio Encode , If highlighted ,that means audio and video synchronization. Otherwise only

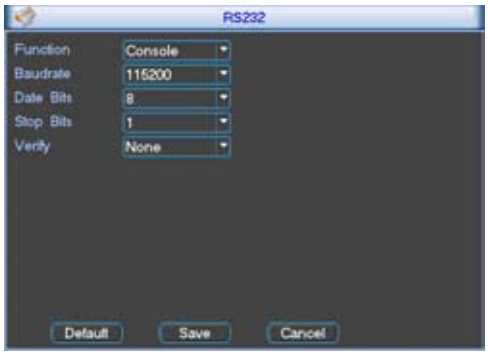
video signal will be processed.

Cover-Area: In Enable, highlight indicates the user can set the covered area where there is no picture on live monitor or playback. The user can use mouse or the related keys on the front panel to set the area.

Schedule Include general recording, motion detection and alarm recording

Prompt: Refer to 4.2.2.for details.

RS232



Choose the corresponding protocol

The available protocols are as below: Console: Used when upgrading and debugging the program through the software Mini terminal Keyboard: Used when controlling DVR by Dahua special keyboard

BAUDRATE: Choose the corresponding baud rate.

DATEBIT: From 1 to 8

STOPBIT: Has three options: 1, 1.5, 2 bits

VERIFY: Including Odd, Even or None.

Network IP ADDRESS is set by using ▲▼ or input the exact numbers to change the IP address （IP address can only be set in this option）

Then set the related Subnet Mask and Gateway

HTTP: default 80

TCP: default 37777 and can be changed if needed

Protocol Choose TCP.

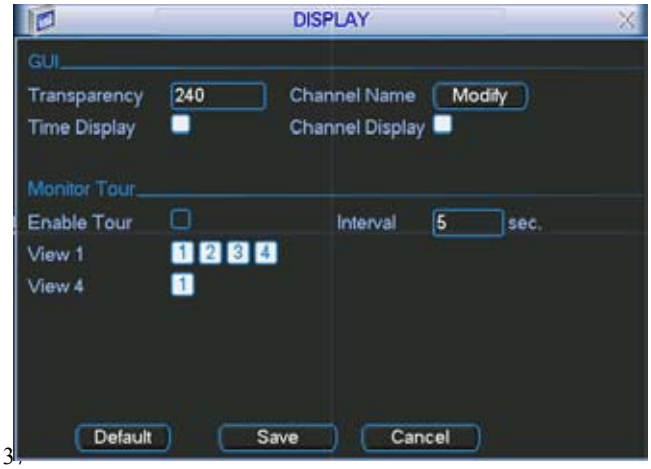
In Max Connection, the user can choose from 0 to 10. 0 means online users are not allowed. Up to 10 online users can visit the DVR simultaneously.

Alarm: Refer to 4.2.4 for details.

DETECT： Refer to 4.2.3 for details.

PAN/TILT/ZOOM： Refer to 4.5 for details.

Display

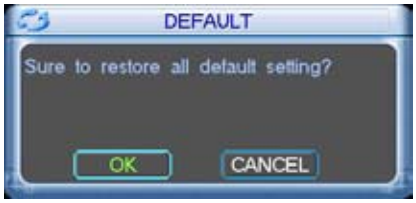


In **GUI and Monitor**, the user can choose the favorite background color and the transparency as well.

The transparency can be chosen from 128 to 255.

Time Title: If highlighted, the system time will be displayed on the monitor. In Monitor Lock, highlight means the live monitor of the corresponding channel has been locked. Only the users who have the right to view the channel can see the picture. The view right setting is under ADVANCED> ACCOUNT.

Monitor tour Set the tour interval (from 5 sec to 120 sec), display modes (l, 4, 9,16 windows), attended channels (Highlight means attend the tour) for the tour.



Defaul The system will restore the original factory default setting

5.3.4 Advanced

Menu of the advanced setting is as the right picture:

Including **Alarm output**, **Alarm input**, **Manual record**, **Account**, **Playback Setting**

Alarm Output Set the alarm output ports. Highlight means enabled. Click **Ok** to save, **Cancel** to cancel the setting and exit. Manually open/close the related alarm output port.

Alarm Input Set the alarm input port and highlight means enabled

Click **Ok** to save, **Cancel** to cancel the setting and exit.

Only when the alarm input is enabled, the DVR can receive the corresponding alarm input.

Manual Record Refer to 4.3 for details.

Account Manage users account

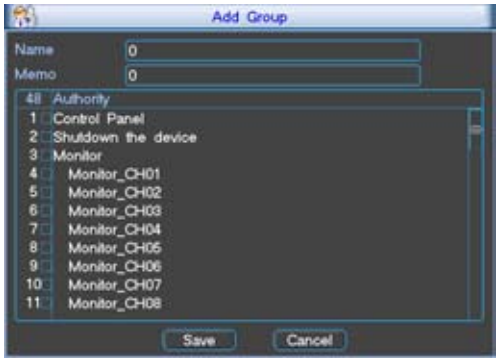
The system adopts two levels users management: group and user. Different group should have different name. So should user. Every user must and only belong to a group.

Three times password failure will sound the buzzer for 5 seconds. Five times failure will lock the user. After 30 minutes, the locked account can be used again.。

Add group

Enter **Add group**, then input group name and select 48 rights which include Control Panel, Shutdown the device, Monitor, Playback, Record, Backup, Hard disk Management, Pan/Tilt//Zoom, User account, Query System Info, Alarm I/O Configuration, System Configuration, Query Log Info, Clear Log, System Update and Control the Device.

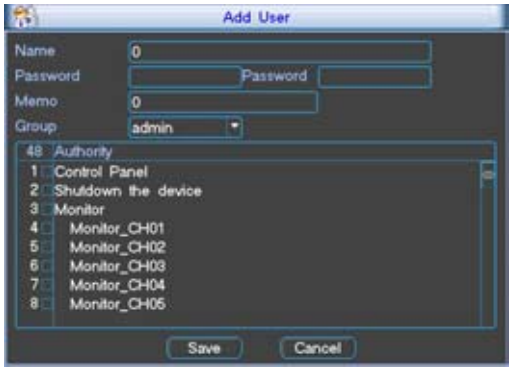
Modify Group: Modify the attributes of a group.



Add User:

Enter **Add User**. Input user name and password, then select your group.

Once you choose the group, your rights are below the rights of the group.



5.3..5 Backup

Menu of Backup is as the right picture

Including: Detect Device and Backup files

Refer to 4.4.2 for details.

5.3.6 Shutdown

Logout menu user: exit menu, the user has to input the password for entering menu. **Restart application:** exit application and restart application. **Shutdown:** exit and power off DVR. **Restart system:** exit and restart system.

Chapter 6 Operation over Network

6.1. Network connection operation

. Confirm the right connection between the computer and the DVR

. Set IP address, subnet mask and gateway to the computer and the DVR. (If there is no router on the network, please assign IP addresses within the same network segment. If there are routers, you should set the related gateway and subnet mask. The network setting of DVR is under SETTING>NETWORK.

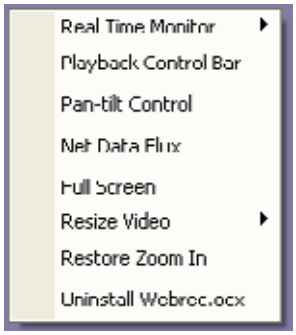
· Use ping ***. ***. ***. ***（IP address of DVR）to check the link of the network, replied TTL value less than 255 is normal.

· Open IE browser and input the IP address of the DVR you want to log in

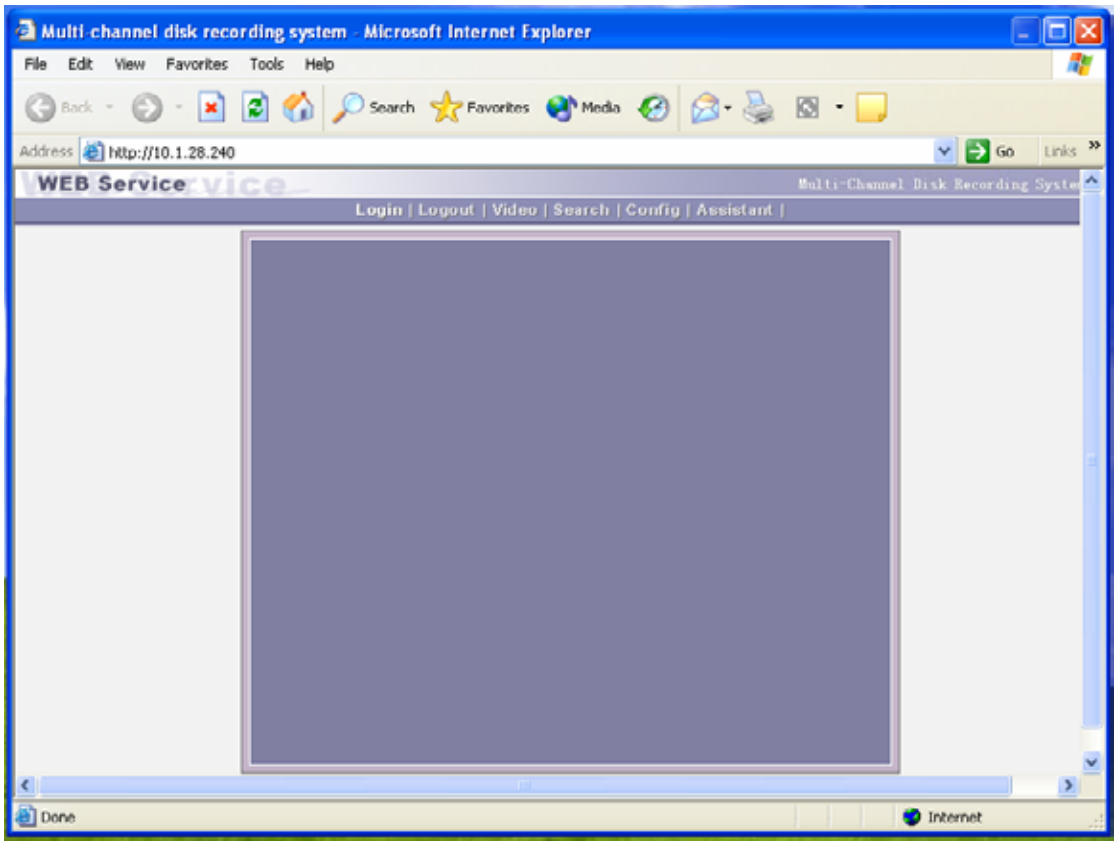
· The web server can be recognized and downloaded automatically. When upgrading the web server, the old one will be deleted.

6.2.Login and logout

Please input the IP address of the DVR in the address column of the browser. Take the DVR's IP address: 10.1.28.240 as an example: Input http://10.1.28.240. Note: The first time you visit this DVR, the system will pop up a dialogue box to ask 'Do you want to install and run http://10.1.27.240/webrec.cab?. Please choose Yes, then the system will install the software automatically. Before logging in，click the right mouse key and the following menu displays



Select **uninstall webrec.ocx** , the system will delete the web server automatically



.

On the remote monitor display, there is a monitor video window, with selection choices: login、logout、video、search, config(system setting)、Assistant(assistant setting) and so on.

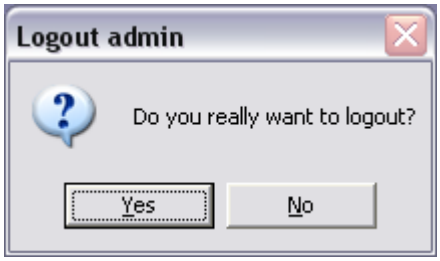
Login： Click login, and the following dialogue box (6-2) will pop up.

Input username and password. There are three types of users: Administrator, User, Guest. For the detailed information please refer to User manage in Assistant setting. The default username is admin and password is admin For Security purposes, please change the administrator password in time.

If after the input of the username and password, the following box pops up. The system is indicating that another user has used this name and logged in. Please use other name to log in.

If after the input of the username and password, the following box pops up(6-4). The system is indicating that the username or the password is incorrect please try again.

Log out: if the logged in user need to log out, please click logout button. After the popup of the following dialogue box, please choose **Yes**. See 6-5.



3. Operation of the right key menu

After you log in as Administrator, the buttons like login、logout、search, config and Assistant are activated. Click the right key and the following interface will show：

If the DVR is 16 Channel, the real-time monitor will show 16 channel options; if 4 channel, it will show 4 channel options.

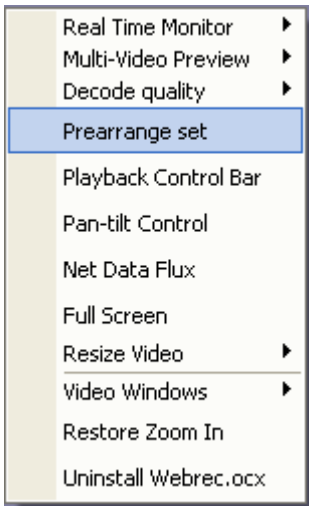
The right key menu includes: Real time monitor, Multi-Video Preview, Decode quality, Playback Control Bar, Pan-tilt Control, Net Data flux, Full Screen, ResizeVideo, Video Windows, Restore Zoom In and uninstall webrec.ocx.

Video: The same function with the right key menu

Real time monitor：Among the displayed channels, you may select the channel you want to see. Channel name can be changed under **Assistant->Change Name.**

When you view picture, click the right key and you will find a menu option '**prearrange set**' has been added

Note: If you didn't set a protocol of the pan-tilt on the DVR configuration menu, the **prearrange set** and **Pan-tilt Control** options are gray and can't be set. If you did set a protocol and the options were still gray, maybe you have no administrator right or were deprived of the right. Please apply for the control right first.



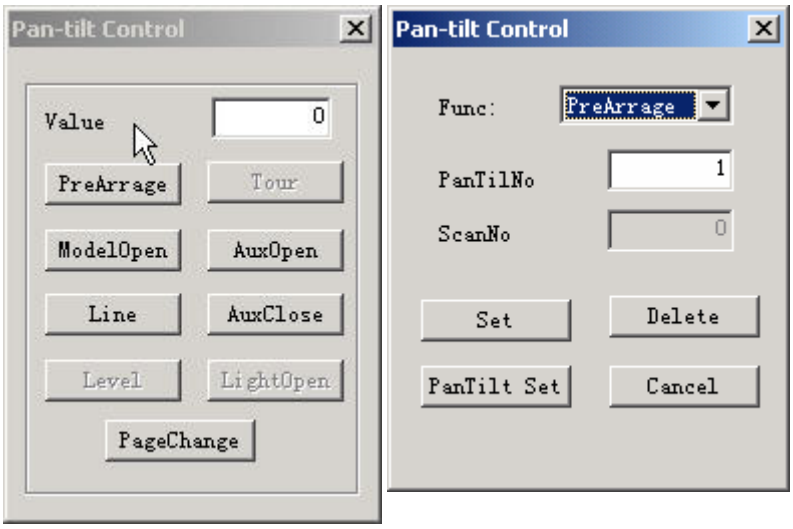
Decode quality: 4 levels decode quality for choose

Playback control bar：Used with records search.

Pan-tilt control：Control the moving direction of the pan-tilt, zoom, iris and focus of the lens. . Press the related buttons to control.

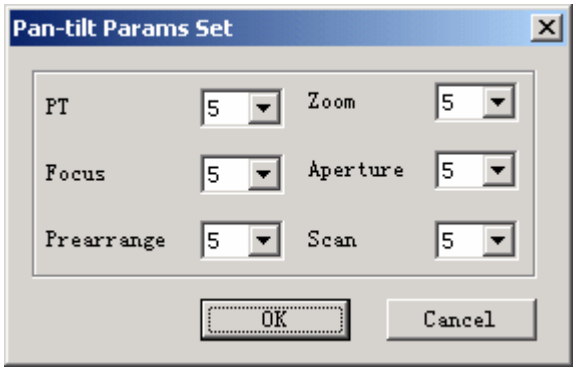
Note：Before the PTZ will operate, you must set the right protocol of the pan-tilt-zoom

Prearrange set: Move the camera to the prearranged position, then preset the position. Several positions can be chosen. If the check box near **tour** checked, the PTZ will cruise automatically between these positions.

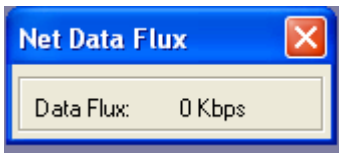


Pan-tilt Params Set:

The step is mainly used for direction control. If there is a new protocol supporting zoom or iris step, and they can also be controlled.（The value can be obtained through the front panel.(1-8, 8 means the biggest).



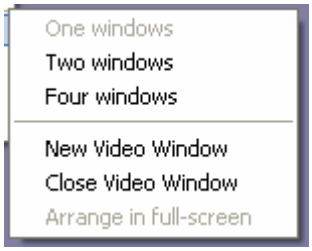
Net data flux: Display the statistics of the network transmission data flux. When there is no network data transmission the statistics shows zero.



Full screen: There are two ways to realize full screen monitor: One is to double click the window directly; the other is to select Full screen among the right key menu. During multi-window state, choose one of the windows and make it full screen in the same ways.

Resize Video: In single window status, the user can resize video only when live monitor is chosen. In multi-window status, video can be resized even without live monitor.

Video windows: There are **One window**, **Two windows**, **Four windows**, **New video window**, **Close video window** and **Arrange in full screen**



New video window: When the number of video windows is less than 4, you can add new video window manually.

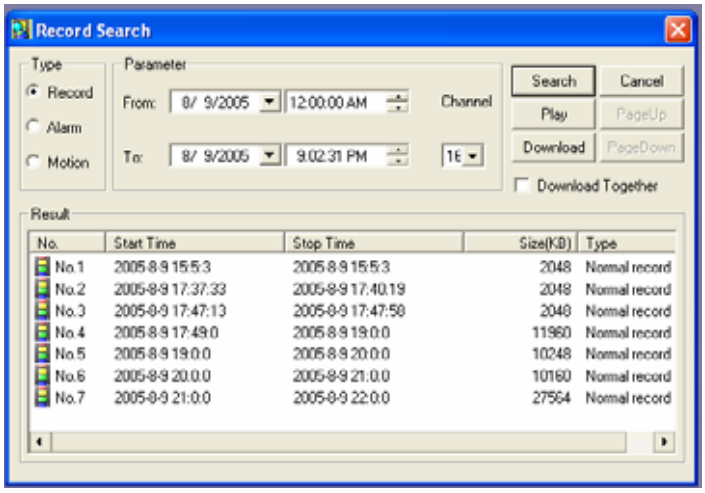
Close video window: Close the video window.

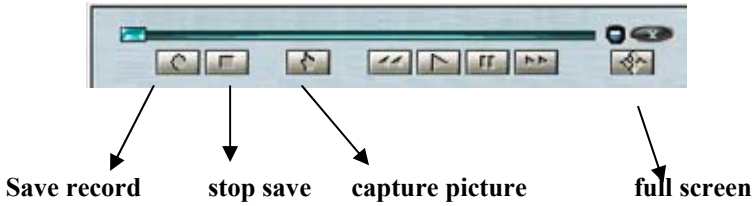
Arrange in full screen: If two or more windows are displayed, you can use this option to display multi-window in full screen

Uninstall webrec.ocx: Uninstall the Active X webrec.ocx. before you upgrade the new web Active X

4.Records Search

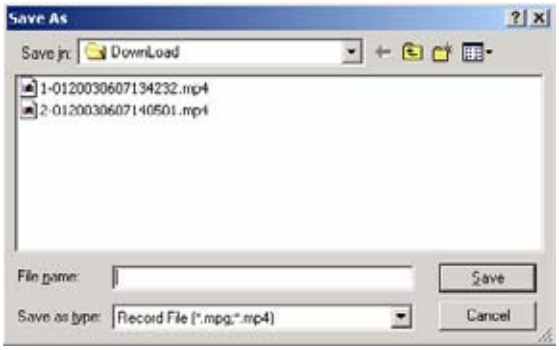
Click on search, then fill in the required info on the pop up dialogue box of records search Input recording time, channel number and searching type （Record ,Alarm or Motion detection）, and the results will show in the dialogue box. It only shows the 15 records after the searching time and clicks **Page up** and **Page down** to find the right records. Double click the wanted record, and system will play the selected record, which can be played at full screen. At the same time you can also perform records download, and the record will be automatically saved at C:\Download.





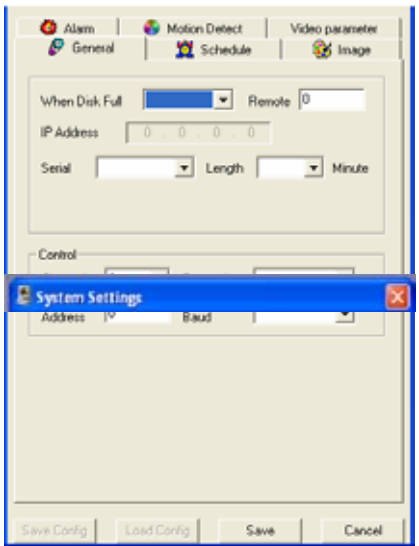
During the playback, you can operate the buttons in the playback bar like save record, stop save, capture picture, full screen. During the playback on the video screen the video displays the channel number, time and data flux of the record.

Download：See 6-12, select the wanted records (It supports the downloading of several records simultaneously) and click **Download**. A save window opens



The default format of the downloaded records' names is as：file name +Channel N +date +time， extension name is .mp4(Example: a-0120021205071028.mp4, 01 means channel 1, 20021205 means December 5th of 2002, 071028 means 7 o'clock 10 minutes 28 seconds). If you want to download several records together, you should check in the check box before **download together.** The default name of the records is the same with the name of the first record.(according to recording time). During the playback, it will play all the records.

Saved under Download file clip. Input the file name and choose **Save**. The screen shows the processing of the downloading until the completion.



5. Config (System setting)

Click **Config** button， and pop up the dialogue box. There are **General**、**Schedule**、**Image**、**Alarm**、**Motion detection** **Video**

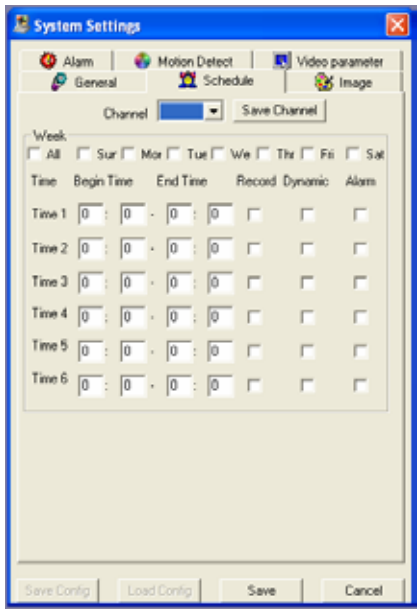
parameter tabs of six setting menus.

Note：The gray part of the menus that cannot be changed can only be modified directly at the DVR.

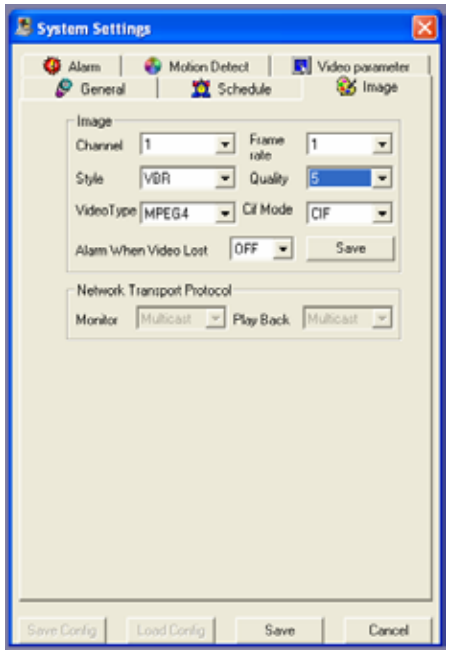
General：Include the recording length setting. In **Control** Column select the channel number and its pan-tilt decoder's protocol, as well as the related address so as to realize the control of the lens and pan-tilt.

Schedule：Able to select the different channel and date to perform the recording at the different period of time. Schedule recording includes general recording, motion detection recording and alarm recording.

There are six time periods for setting in each recording type. The set time in general recording are independent with the set time in Motion detection and alarm. Only when status is On, the set time period takes effect. If the states of the two time periods are both Off, the system will not record in this recording type.



Image：This menu can select the coding style, image quality and protocols for each channel. After finishing one channel setting, click **Save** to save the setting of this channel. You can continue to set the image attributes of other channel. Finally, click **Save** on the bottom of the dialogue box to save all setting.



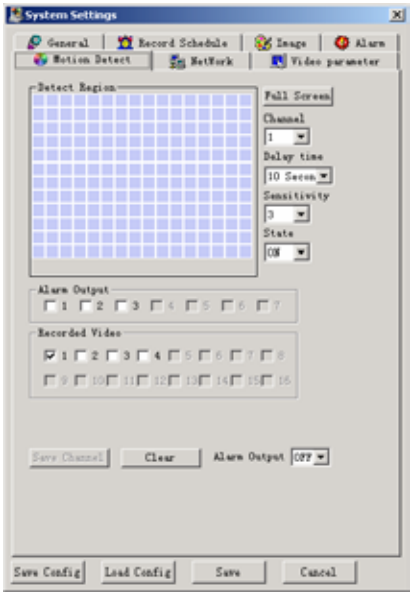
Frame rate has 1f/s、2f/s、3f/s、6f/s、12f/s、20f/s. Coding style has VBR(variable bit rate) and CBR. When in VBR

style, there are 1,2,3,4,5,&6 levels of image quality. When in CBR style, selectable data flux are 128Kb/S, 256Kb/S, 384Kb/S, 512Kb/S, 768 Kb/S, 1024Kb/S. The different data flux demands on the related bandwidth and the transmission image quality is also different. Among them Level 6 demands on the widest band and has the best image quality.

Alarm when video lost: Off means no alarm. **On** means alarm when video lost

Alarm: When there are alarm input signals, the user can select the recording channel and the output port. In **Alarm Port**, the user can choose from 1 to 16 or ALL. Record Channel means when there is an alarm input at an alarm port, the system can start up recording at the corresponding channels which have check marks in the check boxes.

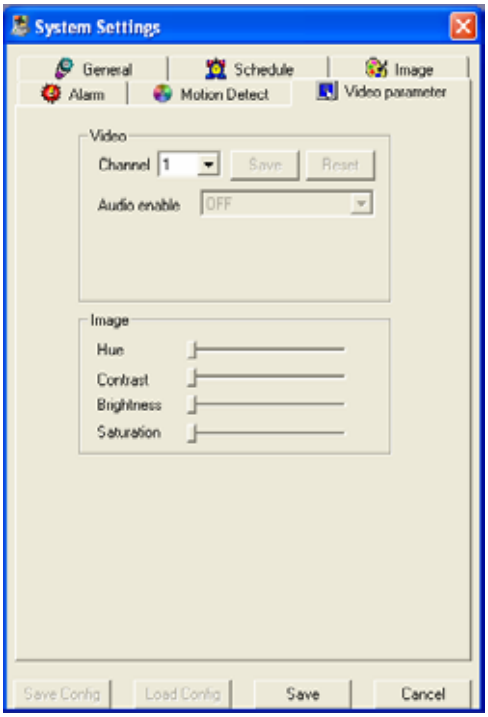
After setting one alarm port, click Save Port to save the setting. After setting all ports, the user should click Save to save.



Motion detection: When the user set the time period for motion detection (the time period can not overlap with the time for the general recording. The general recording has higher priority), motion detection will take effect. The purple area is the selectable motion detection area. User can move the cursor to choose the area and can also set the sensitivity of the area due to the need. Click **Full screen** or press right key on the area to display the motion detection area at full screen. After setting the area the user can **Save channel** or **Clear** the area.

Alarm Output: This field allows the user to activate an output relay. If you want to set this channel fully as motion detection recording, you have to turn off the timing recording of this channel.

Video parameter User can adjust the video Hue, Contrast, Brightness, and Saturation and so on. Click **Reset** to reset default value

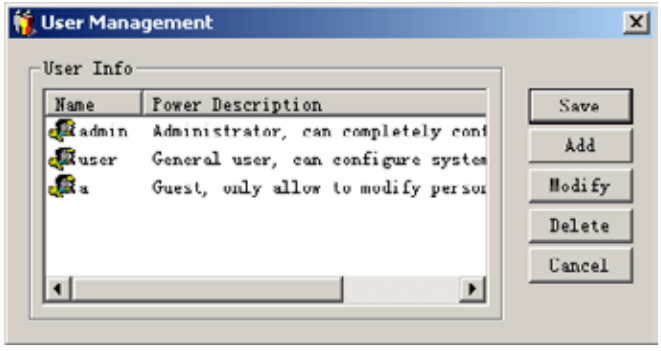


6. Assistant

Assistant ：Click on Assistant button, as following, there are User manage, Record control, Apply for control right, Log information, System information, Alarm prompt , Channel name, Upgrade BIOS and About

User manage：Display users' information. The right buttons can let an administrator user save, add, modify, delete and cancel the information.

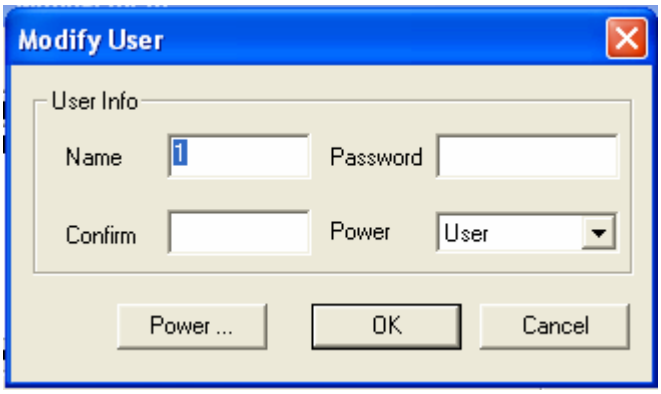
Three levels users：Administrator－fully set the system and modify the user information; User－can not set system parameter and modify other users' information; Guest－can not set system parameter and records search, can only modify personal information.



Add：Click **Add** to show the following dialogue box：

User can add user information in this dialogue box, assign user power level. There is only one administrator allowed.

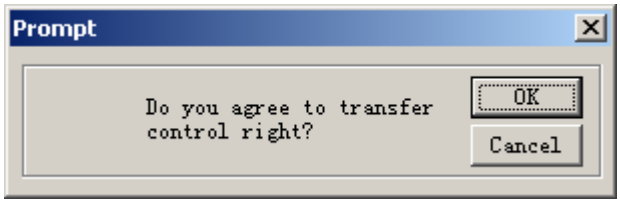
Modify：Select this button to show the following. User modify the filled-in information.



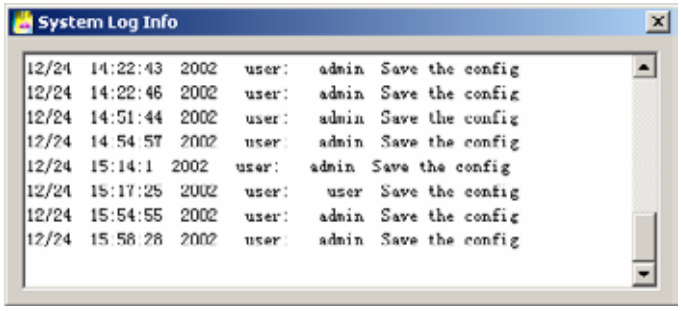
Record control：Control the recording of each channel manually.

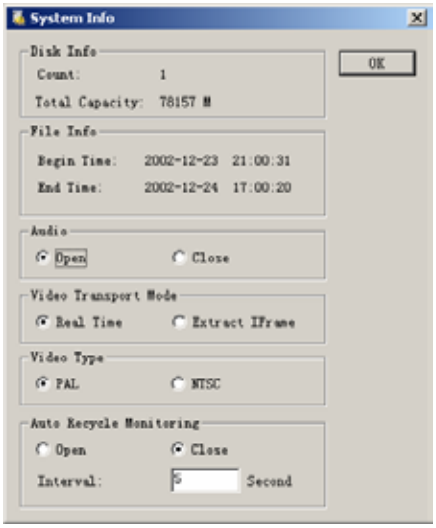
Apply for control power：Web client software can supply the login of multiple users. If you want to have the control power, you can click this option and confirm to have the control (6-27). If the user want to have the control power, he has to apply and gain the authorization of the user with control power. If the logged-in users are all normal user, the first logged-in user gains the control power automatically. If Administrator logs in later, he or she can gain the control power by force. If only one user logs in or the logged-in user is the user with control power, the box is gray.

The following picture is other user is sending request to the user with control power.



Log information: The operations on the system are all recorded in log information.

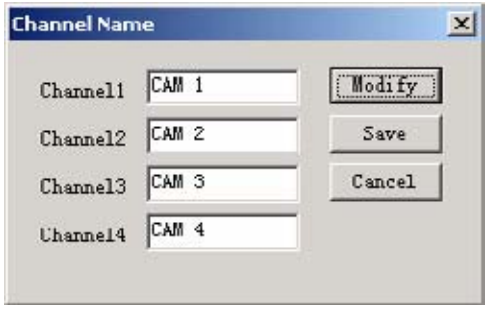




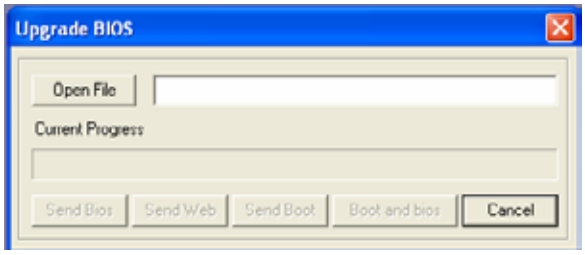
System information: Check the basic information of the system. When sound is not needed, you can turn off the audio. Due to the band width consideration, the user can select the different Video transport mode, and after choose non-real-time transmission; the mode is Extract I frame. Video type PAL or NTSC has to be selected right. If Auto recycle monitoring is on, system will shift among all the channels automatically and the time interval can be set.

Alarm prompt: Different sound warning for the certain Alarm input can be chosen according the user's needs. The audio file named Alarm Sound. wav in under the directory System32.

Channel name: Able to name each channel and the letters are no more than 12. The revised channel names will be displayed on the screen. The default setting of the channel name is Channel No.1 to Channel No.8.



Upgrade BIOS: Able to upgrade the BIOS program remotely. Open the related BIOS or Web file and click on the related button (the system can recognize the file type. After the upgrading, it will show the clue about the upgrading.



About: Version information

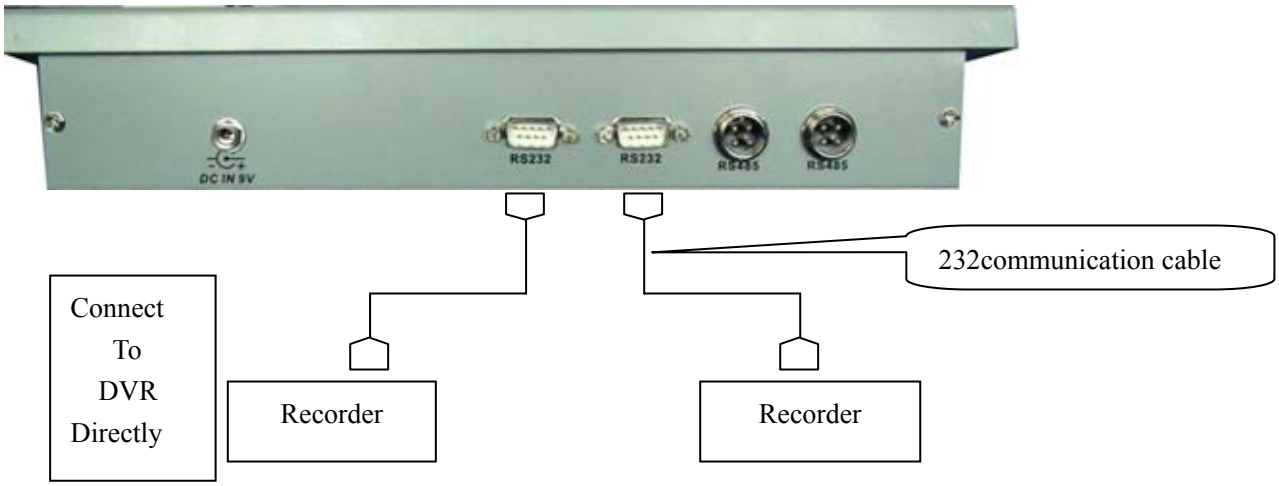
Chapter 7 Serial port operation

7.1 Control Keyboard

The keyboard can control multi-DVR, set up menu options to one DVR or multi-DVR and control PTZ. Choose Keyboard in Function under DVR menu **SETTING＞RS232** and set the related parameters which are the same with the keyboard. DVR can be connected to keyboard's RS232 port directly, but the distance should be less than 10 meters. If using RS232 ports, the keyboard can only connect to 2 DVRS. If we want to one keyboard to control more than 2 DVRS, we must use RS485 ports and RS485-RS232 converter. The distance between RS-485 and DVR can reach 1200 meters. Set different address to every DVR. When you use the keyboard to control one of recorders, you have to input the address first. After all the setting, you can use the keyboard to control the DVR or set menu options.

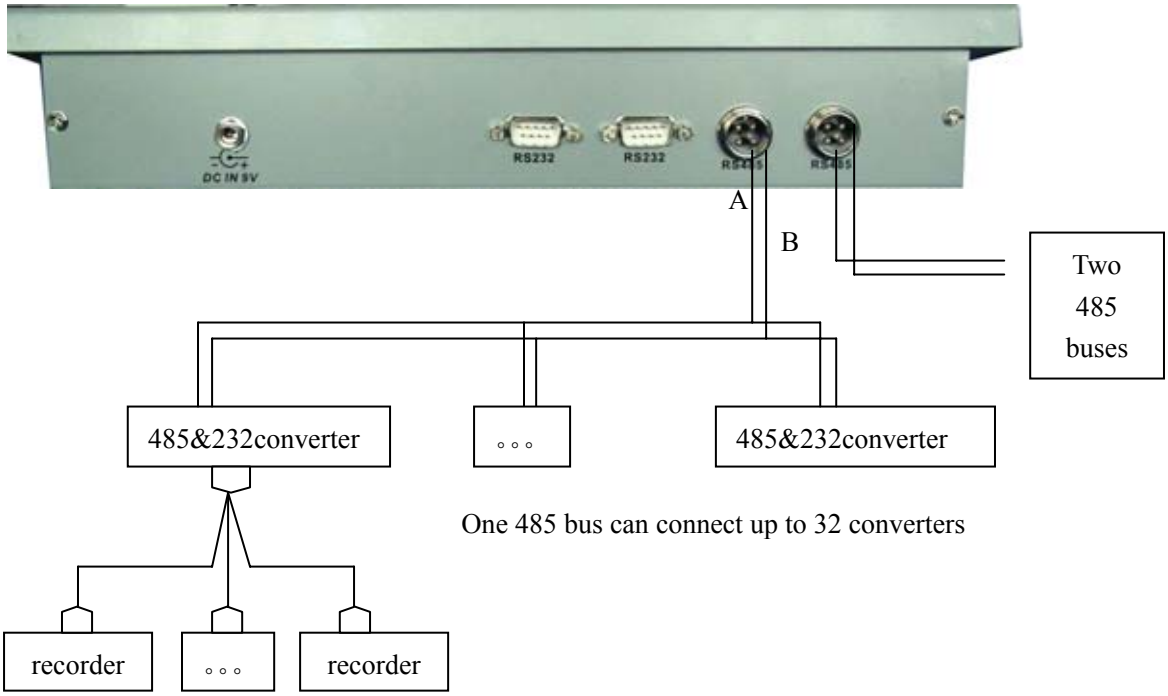
Note：The keyboard works only when the ACT light on the front panel of the DVR is on.

1）By RS232 serial ports：



The remote address of every recorder can be set freely, but 255 is the maximum. Each address should be different. More details can refer to recorder manual

2）By RS485 serial ports：



Each converter can connect up to 12 recorders

7.2 Matrix connection

DVR can also work with Matrix through RS232 port. Before connection, you should consult your supplier whether DVR has the matrix control protocol. After connection, choose the corresponding matrix protocol under **SETTING＞RS232**, you can use the front panel of the DVR or remote control to control the Matrix.

Chapter 8 Frequent Questions and Answers

1. **If the operation system is WINDOWS98, which aspects should be taken care of?**
   For WINDOWS98, a picture tool DIRECTX 7.0 should be installed in advance, because WINDOWS 2000 or XP already includes this tool.
2. **HDD can not be detected.**
   - First check whether the HDD is broken
   - Check whether jumper line, IDE data ribbon and power cord are well connected
   - If only one HDD is connected to one IDE, this HDD must be set up as master
3. **What is mean for the sound of buzzer when normally start the machine**
   When the machine is started successfully, it would burst out a short ring.
   When the HD could not be identified, it would burst out a long ring.
   When communicate with the controller panel is abnormal, it would burst out a voice of one long ring and two short serially.

4. **Uncontrollable the recording time?**
   The recording time unit is one day. Besides schedule recording, there are other recording modes such as motion detection recording, manual recording, alarm recording. Please confirm each setting is correct. Each time period should be set within one day.

5. **The indicator light is flashing while recording?**
   Check the external video input signal first. When substandard signal is inputted, the indicator light will flash. Otherwise the reading speed of HD is too slow will cause the problem, in this case, the current HD should be changed.
6. **About heat dispersion**
   We use low power dissipation chips for DVR internal circuit. Smart management is adopted to manage HDD. If we haven't manipulated DVR for 7 minutes, DVR will make non-working HDD into standby mode. This reduces heat volumes of DVR and also improve useful time of HDD
7. **No video signal on one channel on the monitor**
   Check whether the video line is well connected. Or put the camera's video line into the monitor directly to see if there is any video signal. If not, that indicates that there are some problem for the camera or video line. If the picture shows up on the monitor, please contact with the supplier.
8. **Remote control doesn't work**
   Most of the cases fall into two reasons: battery problem or address mismatch.
   Battery Problem: Make sure that two good AAA type batteries are installed.
   Address Mismatch: one remote control unit can be used to control multiple DVRs. Each DVR is programmed to accept control signal from one of 256 channels. This setting can be found under MENU->SYSTEM SETTING ->GENERAL-> REMOTEADDR. To change the output channel of the remote control unit to match one particular DVR (represented by Channel # 1 to 256), aiming

at the DVR, press the “ADD” button which is located at the right upper corner of the remote control. There should be a message displaying on the local monitor “ADDRESS _ _ _”. Use the remote control’s numeric keys to input the DVR’s channel number and press the ENTER button.

If you cannot get the “ADDRESS _ _ _” message and the connection of the local monitor is correct, please call your vendor for support.

9. **Can’t control PTZ or speed dome**
   - Check the connection between the DVR and PTZ or speed dome
   - Check the setting. The setting can be found under MENU->SYSTEM SETTING->PTZ CONTROL
   - The address and protocol should be matched with ones in PTZ or speed dome
10. **Fail to connect to network**
   - If the ‘fail to connect to one IP address’ dialog box pops up, the system is indicating that there are some problem for the connection between DVR and the computer. Check IP address and other network setting. Use “ping” command to check connection problem
   - If the ‘This user has logined’ dialog box pops up, the system is indicating that some other user has used this name and is logged in. Please use another name to log in
11. **After I logged in the DVR, why the image quality is not good and sometimes has drag mark at the beginning?**

    If the image can recover within 5 minutes, it is normal.
12. **What kind of external equipment could be connected the DVR?**

    It can work together with special keyboard, various matrix units, various control decoder, alarm input and output devices and access control.

NOTE：

This manual applies to 2-ch,3-ch,4-ch ATM DVR with the hardware version 1.0 above and the software version 1.0 above

Function might change after upgrade.